

**Remarks**

The Official Action mailed April 9, 2004 has been carefully considered. Reconsideration and allowance of the subject application, as amended, are respectfully requested. No new matter has been added to the subject application as a result of the changes made thereto.

Applicants have amended the specification at page 14, paragraph 3 and page 15, paragraph 1 to correct typographical errors.

Applicants wish to thank the Examiner for the telephonic interviews of April 30, 2004 and May 4, 2004. In light of those discussions, Applicants have amended claim 29 to overcome the Examiner's rejections. Accordingly, Applicants respond as follows.

Claims 29-34 stand rejected under 35 USC § 103 as being unpatentable over Nalbant (5,615,093) in view of O'Neill (6,198,236) and Ehrenhardt et al (6,640,271). In this rejection, the Examiner relies on Nalbant as disclosing a cold cathode fluorescent lamp (lamp 50), an inverter circuit (60) generating an AC signal to power a cold cathode fluorescent lamp, and an inverter (integrated circuit controller 52) adapted to generate a plurality of signals to drive the inverter circuit. The Examiner recognizes that Nalbant does not disclose "an input pin configured to receive two input signals and a multiplexer circuit to direct both input signals to its corresponding circuit." (Page 2-3, Office Action).

The Examiner points to O'Neill as clearly teaching that the use of a plurality of signals for controlling the lamp ON and OFF operation and the dimming of the lamp is well known in the art. The Examiner then asserts that "specifically, O'Neill discloses an input pin which operates with two input signals." The Examiner also asserts that O'Neill teaches "fluorescent lamp drive circuit provides a first continuous drive signal over a first (high) range of lamp

intensity and a second PWM drive signal over a second (low) range of lamp intensity.” (Page 3, Office Action).

Finally, the Examiner points to Ehrenhardt et al as teaching that it “is well known to those in the art, additional components such as multiplexers could be included in the addressing and data buses.” (Column 2, lines 39-41). Thus, the Examiner concludes that “it would have been obvious to one having ordinary skill in the art to employ the pin multiplexing and pin multitasking techniques in Nalbant, as taught by O’Neill and Ehrenhardt et al, in order to reduce the pin count and to provide a system flexible enough to accommodate many different needs (Page 3, Office Action).

Applicants respectfully disagree with the Examiner’s characterization of the O’Neill reference. The Examiner indicates that “O’Neill discloses an input pin which operates with two input signals.” However, O’Neill provides no such disclosure.

O’Neill discloses circuitry for controlling the intensity of a fluorescent lamp. In particular, O’Neill discloses circuitry that provides a continuous drive signal when operation of the fluorescent lamp is brighter, and circuitry that generates a PWM signal to drive the fluorescent lamp when operation of the fluorescent lamp is dimmer.

As an initial matter, nowhere does O’Neill discuss pin inputs. While indeed the circuitry disclosed by O’Neill is capable of generating a plurality of signals, nowhere is there a disclosure for a controller that has an input pin that is capable of receiving two or more input signals on that pin. Indeed, as a point of reference, Applicants respectfully draw the Examiner’s attention to Figure 9, and the corresponding description thereof, in which switching regulator 124 does not have an input pin that is configured to operate with two or more input signals. Also, referring to the system block diagram of Figure 8, none of the blocks depicted in Figure 8 disclose or suggest

any type of circuitry that comprises an input pin configured to operate with two or more input signals.

To support the reliance on the O'Neill reference, the Examiner appears to point out that the lamp driving circuit provides a continuous drive signal over a first range of lamp intensity and a PWM drive signal over a second range of lamp intensity. It is evident from the teachings of O'Neill that this assertion simply confirms the objects of the O'Neill reference, to wit, the ability of the lamp drive circuit to generate a first type of signal when the lamp is operating in a high brightness range, and a second type of drive signal when the lamp is operating in a low brightness range. It is entirely unclear how this excerpt from the O'Neill reference supports the Examiner's position that O'Neill discloses an input pin that is configured to receive two or more independent input signals.

Take for example the regulator 124 depicted in Figure 9 of O'Neill. There are disclosed a plurality of inputs, for example FB (feedback). While it may be that the feedback signal received at the FB input is a range of signals levels, each signal in that range still represents a feedback signal. Contrast this with the requirement of the present invention of claim 29, to wit, an inverter controller...comprising at least one input pin configured to receive at least two independent input signals, each said input signal supporting an associated function of said controller, during operation of said controller. Simply stated, there is no teaching in O'Neill of independent signals on one input.

It is respectfully submitted that the Examiner's reliance on the Ehrenhardt et al reference is equally misplaced. As stated previously, Ehrenhardt does not disclose or suggest an input pin that can operate with two or more input signals. In contrast, Ehrenhardt et al discloses a programming method where a user can "reprogram the Electronic Control Module to associate a

specific function with a specific pin in connector 20, 15.” (Column 3, lines 31-33). As an example, Ehrenhardt et al teaches that “in this manner, if the vehicle in the above example did not have cruise control, but did have a Power-Take-Off (“PTO”), then pin 16 could be reassigned from a cruise control sensor input to a PTO sensor input, for example.” (Column 3, lines 33-37). Thus, a pin can be reprogrammed but that pin cannot support multiple functions. Once a particular pin is programmed or reprogrammed, according to Ehrenhardt et al, it can no longer support a different function during operation of the Electronic Control Module.

To reiterate, claim 29 of the present invention requires, *inter alia*, an inverter controller...comprising at least one input pin configured to receive at least two independent input signals, each said input signal supporting an associated function of said controller, during operation of said controller. These features of claim 129 are nowhere disclosed or suggested, either alone or in combination with any of the references relied upon by the Examiner.

As set forth above, and in summary, none of the references relied upon by the Examiner disclose or suggest an input pin that is configured to receive at least two separate and independent input signals. Moreover, none of these references disclose or suggest that each separate and independent signal to the claimed input pin can support an associated function of the controller during operation of the controller. Therefore, no combination of references cited by the Examiner could achieve or render obvious Applicants’ claimed invention.

Having dealt with all of the rejections raised by the Examiner, it is believed that the subject application, as amended, is in condition for allowance. Thus, early allowance is earnestly solicited.

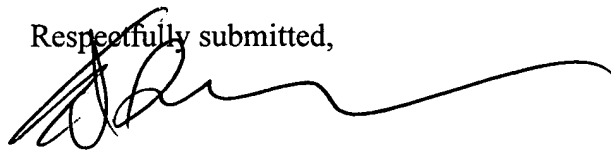
Since the Examiner appears to have considered these arguments and effectively these claim limitations (see Office Action), it is believed that no new issues as would require a further

Appl. No.: 10/690,102  
Amdt. dated: July 9, 2004  
Reply to Office action mailed April 9, 2004

search have been raised by this amendment. Accordingly, it is respectfully requested that the amendment be entered as placing the application in order for allowance. After the Examiner has had an opportunity to consider the above remarks, the Examiner is invited to call the undersigned attorney at (603) 668-6560.

In the event that there are fee deficiencies, or additional fees are payable, please charge, or credit any over payments to Deposit Account No. 50-2121.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Edmund P. Pfleger', with a long, sweeping horizontal line extending to the right.

Edmund P. Pfleger  
Attorney for Applicant  
Reg. No. 41,252  
Grossman, Tucker, Perreault & Pfleger, PLLC  
55 South Commercial Street  
Manchester, New Hampshire 03101  
603-668-6560